

ABSTRACT

A method for fabricating a piezoelectric macro-fiber composite actuator comprises making a piezoelectric fiber sheet by providing a plurality of wafers of piezoelectric material, bonding the wafers together with an adhesive material to form a stack of alternating layers of piezoelectric material and adhesive material, and cutting through the stack in a direction substantially parallel to the thickness of the stack and across the alternating layers of piezoelectric material and adhesive material to provide at least one piezoelectric fiber sheet having two sides comprising a plurality of piezoelectric fibers in juxtaposition to the adhesive material. The method further comprises bonding two electrically conductive films to the two sides of the piezoelectric fiber sheet. At least one conductive film has first and second conductive patterns formed thereon which are electrically isolated from one another and in electrical contact with the piezoelectric fiber sheet.